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7-1 Reg for Refund

Attorney's Docket No. 1-14455

PATENT

01-15-23

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

- ☒ In re application of:
Serial No.: 009 / 625,921 Group No.: 1775
Filed: July 26, 2000 Examiner: T. Dicus
For: Glass Article Having a Solar Control Coating
☐ Patent Issued:

*NOTE: Insert name(s) of inventor(s) and title also for patent. Where request is with respect to a maintenance fee payment also insert application serial number and filing date and add Box M. Fee to address.

Commissioner of Patents and Trademarks
Washington, D.C. 20231

ATTENTION: Refund Section, Accounting Division, Office of Finance

REQUEST FOR REFUND

(Improper charge of Deposit Account)

I. REFUND REQUEST

This is a request for a refund with respect to the charge to Deposit Account 13-1816 shown on the statement dated September 2002 for the above identified

- ☒ application.
☐ patent.

(check the following, if desired, and supply copy of statement)

- ☒ A copy of the monthly statement in which the error referred to occurs, accompanies this request.

CERTIFICATE OF MAILING/TRANSMISSION (37 CFR 1.8(a))

I hereby certify that this correspondence is, on the date shown below, being:

MAILING

☒ deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231
Date: 09/25/02

FACSIMILE

☐ transmitted by facsimile to the Patent and Trademark Office

Signature

Michelle Fais

Michelle Fais

(type or print name of person certifying)

(Request for Refund (Improper Charge of Deposit Account) [19-4]—page 1 of 3)

II. FEES CHARGED FOR WHICH REFUND REQUESTED

AMOUNT OF REFUND REQUESTED

<input type="checkbox"/> Filing fee	_____
<input type="checkbox"/> Surcharge for filing the basic filing fee on a date later than the filing date of the application (37 CFR 1.16(e))	_____
and/or	
<input type="checkbox"/> Surcharge for filing the oath or declaration on a date later than the filing date of the application (37 CFR 1.16(e))	_____
<input checked="" type="checkbox"/> Extension of term	_____
<input type="checkbox"/> first month	_____
<input checked="" type="checkbox"/> second month	\$400.00
<input type="checkbox"/> third month	_____
<input type="checkbox"/> fourth month	_____
<input type="checkbox"/> Excess claims	_____
<input type="checkbox"/> Issue fee	_____
<input type="checkbox"/> Petition fee	_____
<input type="checkbox"/> Patent maintenance fee	_____
<input type="checkbox"/> first maintenance fee	_____
<input type="checkbox"/> second maintenance fee	_____
<input type="checkbox"/> third maintenance fee	_____
<input type="checkbox"/> Patent maintenance fee surcharge	_____
<input type="checkbox"/> Other _____	_____
_____	_____
_____	_____
_____	_____
TOTAL REFUND REQUESTED	\$400.00

III. EXPLANATION OF WHY CONTESTED CHARGE IS IN ERROR

Applicant filed a response and two (2) month extension of time to the Office Action dated April 5, 2002 on September 3, 2002. Copies of the Office Action, Response, Request for Extension of Time, check, and date stamped return postcard are attached.

Although a check in the amount of \$400.00 was enclosed to cover the fee for the two (2) month extension of time, a charge in the amount of \$400.00 was applied to applicant's deposit account on September 18, 2002.

IV. MANNER OF REFUND

Please make refund by

- ☒ crediting Account No. 13-1816
☐ refunding payment.

Reg.No.: 44,766

Tel. No. (419) 249-7100


Signature of attorney

Mark A. Hixon

(type or print name of attorney)

Four SeaGate
8th Floor

P.O. Address

Toledo, Ohio 43604

SERIAL NO. 04/025921 FILED 07/26/2000 CASE NO. 1-14455

SERIAL NO. 04/025921 FILED 07/26/2000 CASE NO. 1-14455

PATENT NO. _____ ISSUED _____

APPLICANT(S): Revised Pending

PAPERS FILED HEREWITH:

☐ TM-APPLN/EXHIBITS

☐ PATENT APPLN

☐ PROV ☐ UTILITY

☐ CONT ☐ CIP ☐ CIP

☐ PCT ☐ DIV

☐ 35 USC 371 (DO/EO/US)

☒ AMENDMENT

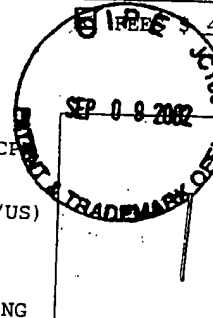
☐ PRELIMINARY

☐ LICENSE-FOREIGN FILING

☐ EXPRESS MAIL CERTIFICATE

☐ REQUEST FOR CORRECTED FILING RECEIPT

☒ OTHER Form PTO/5617 - PTO/5618



☐ ASSIGNMENT/COVER SHEET

☐ LETTER TO DRAFTSMAN

☐ PRIORITY DOCUMENT(S)

☒ EXTENSION OF TIME

☐ 1mo ☒ 2mo ☐ 3mo ☐ 4mo ☐ 5mo

☐ ISSUE FEE

☐ ADVANCED COPIES

☐ MAINTENANCE FEE

☐ NOTICE OF APPEAL

☐ CERTIFICATE OF MAILING

☐ IDS & PRIOR ART

9-16-02 THE PATENT OFFICE MAIL ROOM DATE STAMP HEREON
MARSHALL & MELHORN, hm ACKNOWLEDGES RECEIPT OF THE ABOVE PAPERS

COMMISSIONER OF PATENT & TRADEMAF 09/03/2002

060656

\$400.00

Inv. Date 09-03-02 Inv. No. I210505-14455001 Invoice Description

Amount 400.00

60656

Total: \$400.00

THIS CHECK HAS MICROPRINTING ON THE SIGNATURE LINE AND A WATERMARK ON THE BACK.

MARSHALL & MELHORN, LLC
ATTORNEYS AT LAW
Four Seagate
Toledo, Ohio 43604
(419) 249-7100

FIFTH THIRD BANK
OF NORTHWESTERN OHIO N.A.

56-5
412

060656

60656

Four Hundred and No/100 Dollars

DATE 09/03/2002 AMOUNT \$400.00

PAY TO THE ORDER OF COMMISSIONER OF PATENT & TRADEMARKS

Ruth A. Marshall
AUTHORIZED SIGNATURE

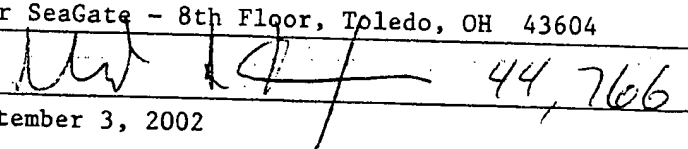
060656 0412000501 999 52588

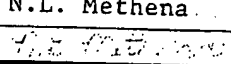
Please type a plus sign (+) inside this box → ☐

Approved for use through 10/31/2002. OMB 0651-0031
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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/625,921	
	Filing Date	07-26-2000	
	First Named Inventor	RONALD GOODMAN	
	Group Art Unit	1775	
	Examiner Name	T. DICUS	
Total Number of Pages in This Submission	11	Attorney Docket Number	1-14455

ENCLOSURES (check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input checked="" type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input checked="" type="checkbox"/> Extension of Time Request / 2 mo. <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Self-addressed/stamped Return postcard
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	MARK A. HIXON MARSHALL & MELHORN, LLC Four SeaGate - 8th Floor, Toledo, OH 43604
Signature	
Date	September 3, 2002

CERTIFICATE OF MAILING		
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: 09-03-2002		
Typed or printed name	N.L. Methena	
Signature		Date 09-03-2002

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

FEE TRANSMITTAL for FY 2002

Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 400.00)

Complete if Known

Application Number 09/625,921
Filing Date 07-26-2000
First Named Inventor RONALD GOODMAN
Examiner Name T. DICUS
Group Art Unit 1775
Attorney Docket No. 1-14455

METHOD OF PAYMENT (check all that apply)

☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number 13-1816
Deposit Account Name MARSHALL & MELHORN, LLC

The Commissioner is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s) ~~indicated below, except for the filing fee~~

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
101	740	201	370	Utility filing fee	
106	330	206	165	Design filing fee	
107	510	207	255	Plant filing fee	
108	740	208	370	Reissue filing fee	
114	160	214	80	Provisional filing fee	

SUBTOTAL (1) (\$)

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims		Extra Claims		Fee from below	Fee Paid
Independent	Claims	-20**	=		
		-3**	=		
Multiple Dependent					

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
103	18	203	9	Claims in excess of 20
102	84	202	42	Independent claims in excess of 3
104	280	204	140	Multiple dependent claim, if not paid
109	84	209	42	** Reissue independent claims over original patent
110	18	210	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for ex parte reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	400	216	200	Extension for reply within second month	400.00
117	920*	217	460	Extension for reply within third month	
118	1,440	218	720	Extension for reply within fourth month	
128	1,960	228	980	Extension for reply within fifth month	
119	320	219	160	Notice of Appeal	
120	320	220	160	Filing a brief in support of an appeal	
121	280	221	140	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,280	241	640	Petition to revive - unintentional	
142	1,280	242	640	Utility issue fee (or reissue)	
143	460	243	230	Design issue fee	
144	620	244	310	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Processing fee under 37 CFR 1.17(q)	
126	180	126	180	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per property (times number of properties)	
148	740	248	370	Filing a submission after final rejection (37 CFR § 1.129(a))	
149	740	249	370	For each additional invention to be examined (37 CFR § 1.129(b))	
179	740	279	370	Request for Continued Examination (RCE)	
169	900	169	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ 400.00)

SUBMITTED BY

Name (Print/Type) Mark A. Hixon Registration No. 44,766 Telephone 419-249-7114
Signature [Signature] (Attorney/Agent) Date 09-03-2002

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

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Commissioner for Patents and Trademarks,
Washington, D.C. 20231, on
September 3, 2002

N.L. Methena

(Name)

N.L. Methena

(Signature)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	
GOODMAN, et al.)	Examiner: T. Dicus
)	
Serial No.09/625,921)	Group Art Unit: 1775
Filed: July 26, 2000)	
)	Attorney Docket 1-14455
For: GLASS ARTICLE HAVING A)	
SOLAR CONTROL COATING)	

September 3, 2002

Commissioner for Patents
Washington, D.C. 20231

REQUEST FOR EXTENSION OF TIME

Honorable Sir:

It is respectfully requested that the time for filing
a Response to the outstanding Examiner's Action, dated
April 5, 2002, be extended two (2) months up to and
including September 5, 2002. A check in the amount of \$400.00
for the extension of time is included herewith.

Please charge any additional fees due or credit any
overpayment to Deposit Account No. 13/1816.

Respectfully submitted,

Mark A. Hixon

Mark A. Hixon

Reg. No. 44,766

ATTORNEYS

Marshall & Melhorn, LLC
Four SeaGate - 8th Floor
Toledo, Ohio 43604
(419) 249-7114

I hereby certify that this correspondence is being deposited with
the United States Postal Service as first class mail in an envelope
addressed to: Commissioner for Patents, Washington, D.C.
20231,

on September 3, 2002
N.L. Methena
N.L. Methena
(signature)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Goodman et al.]	Art Unit 1775
]	
Serial No. 09/625,921]	Examiner: T. Dicus
]	
Filed: July 26, 2000]	
]	
For: GLASS ARTICLE HAVING A]	Attorney Docket: 1-14455
SOLAR CONTROL COATING]	
]	

September 3, 2002

Commissioner for Patents
Washington, D.C. 20231

RESPONSE

In response to the Examiner's action of April 5, 2002, Paper No. 3, please consider the
following remarks in regard to the above-identified application.

REMARKS

This response is being presented in response to the Examiner's action of April 5, 2002.

The Examiner has indicated that claims 1-28 have been rejected. In light of the following detailed arguments, it is respectfully submitted that the claims fully distinguish over the applied prior art.

The Examiner rejected claims 1-21 under 35 USC §103 as being unpatentable over McCurdy (U.S. Patent No. 5,780,149) in view of Terneu et al. The Examiner stated that McCurdy teaches a coated glass article comprising a 3 mm thick substrate with first and second coatings, one of which coatings is an antimony doped tin oxide coating, wherein the glass article exhibits a selectivity of 10 or greater. The Examiner acknowledges that McCurdy is silent as to the second coating being fluorine doped tin oxide deposited on and adhering to the coating of antimony doped tin oxide. The Examiner attests that the Terneu reference disclosed the inclusion of a fluorine doped tin oxide layer on an antimony doped layer provided a low solar factor and emissivity. The Examiner therefore asserts that it would have been obvious to one skilled in the art to replace the second layer with a fluorine doped tin oxide layer.

Claims 22-25 were also rejected over the combination of McCurdy and Terneu. The Examiner indicated that McCurdy shows an insulating glass stack with an insulating unit comprising first and second glass substrates, a multi-layer coating stack with at least first and second coatings, one of which is a coating of antimony-doped tin oxide, wherein the glass article exhibits a selectivity of 10 or greater. The examiner further avers, that the McCurdy reference teaches that the thickness of the first and second layers is dependent upon the desired solar

performance of the stack. The examiner states that Terneu discovered that the inclusion of a fluorine doped tin oxide layer on an antimony doped tin oxide layer provided a low solar factor and emissivity. The examiner thus noted that one of ordinary skill in the art would replace the second layer of McCurdy with the fluorine doped layer of Terneu, in order to obtain lower solar factors and emissivities.

The examiner additionally rejected claims 26-28 under 35 USC §103 as being unpatentable over McCurdy in view of Terneu. The examiner avers that McCurdy teaches a coated glass article comprising the substrate with a 3mm thickness and at least first and second coatings one of which contains antimony doped tin oxide, wherein the glass article exhibits a selectivity of ten or greater. McCurdy teaches the thickness of the first and second layers is dependent upon the desired solar performance of the stack. The examiner acknowledges that McCurdy is silent as to the second coating being fluorine doped tin oxide. The examiner thus concludes that it would have been obvious to one skilled in the art to modify the glass article of McCurdy with the teachings of Terneu, to provide thicknesses within the claimed ranges to affect the solar performance.

Before discussing the prior art in detail applicants wish to discuss the present invention as defined in the independent claims. Independent claim 1 defines a coated glass article comprising a glass substrate, a coating of antimony doped tin oxide depositing on and adhering to said glass substrate. An additional coating of antimony doped tin oxide is deposited on and adheres to the first coating. The thicknesses of the coatings are selected to provide a selectivity of thirteen or more.

Independent claim 22 defines an insulating glass unit. The insulating glass unit comprises first and second glass substrates with a multilayer coating stack deposited on the second glass substrate. A first coating of antimony doped tin oxide is deposited on the surface with a second coating of fluorine doped tin oxide deposited on and adhering to the first coating. The second glass substrate exhibits a difference between visible light transmittance and total solar energy transmittance of thirteen or more.

Independent claim 26 also describes a coated glass article comprising a substrate, a coating of antimony doped tin oxide, and a coating of fluorine doped tin oxide deposited on and adhering to the coating of antimony doped tin oxide.

A review of the prior art shows that the McCurdy reference teaches a glass article having a solar control coating for architectural windows. The article includes a glass substrate and an iridescence suppressing interlayer deposited on and adhering to the surface of the glass substrate. The article further comprises first and second transparent coatings deposited on the iridescence suppressing interlayer. It is important to note that the invention requires that the first and second transparent coatings are chosen such that the difference in the refractive indices of the coatings in the near infrared region are greater than the difference of the refractive indices of the coatings in the visible region. (See, for example, column 3, lines 9-18 and column 5, lines 18-34.) The selection results in an architectural glazing which rejects solar energy in the near infrared region while permitting the transmittance of a high degree of visible light. From this it can be seen that the optimal configuration of the McCurdy reference would require coatings that have essentially

the same refractive index in the visible spectrum and a great difference in their respective refractive indices in the near infrared spectrum. This would optimize transmission of visible light while maximizing the amount of the infrared spectrum transmitted. It can therefore be seen that the selection of the coatings based on these criteria is essential to the purpose of the invention.

The Terneu reference discloses a glazing panel having a solar factor of less than 70 percent and includes a sheet of glass and a coating layer provided on the sheet of glass. The Terneu reference primarily addresses a single Sn/Sb alloy layer. The Terneu reference contains a passing reference to the possibility of a two layer stack, wherein the first layer includes tin and antimony oxides and has a tin to antimony molar ratio of 0.01 to 0.5.

It is important to note that the Terneu reference only discusses the deposition of an antimony/ tin oxide layer followed by the subsequent deposition of a fluorine doped tin oxide layer in column five, lines 36-41, in the Abstract and in the claims on file. In the only place that this is disclosed in the application, Terneu admits that this solution is disadvantageous, by noting that the deposition of an additional layer is time consuming and expensive. A review of the file history of this application shows that the originally filed claims and Abstract did not contain this subject matter, and that this was apparently only added in order to overcome art applied against the application. As shown above, the disclosure of the reference teaches away from a separate layer consisting of fluorine doped tin oxide. It was only during the prosecution of the application that Terneu included subject matter, which the applicant had previously indicated was disadvantageous, into the claims. Based upon this fact, it is submitted that the reference was

teaching away from this solution at the time of the filing of the application, and it was only during prosecution that the applicant *adopted a solution that he had previously defined as disadvantageous*. Thus the Terneu reference, at the time of filing, would not teach the application of a separate fluorine doped tin oxide layer on an antimony doped tin oxide layer, and instead teaches away from this concept. As this concept was not taught by the application as filed, it is therefore submitted that this the art would only be citable as a reference as of the issue date of the application.

Based on the above, it is respectfully submitted that the effective date of this reference would be the date of the patent May 15, 2001, and not the date the application was filed. Therefore, as the present application was filed on July 26, 2000, and has a priority claim which reverts back to August 10, 1999, it is respectfully submitted that the Terneu reference is not an effective reference against the present application. On that basis, it is submitted that it was improper for the examiner to use this reference against the present application, and it is respectfully requested that the present rejection be withdrawn.

However, even if the Terneu reference was properly applied against the present application, is respectfully submitted that this reference cannot be used in conjunction with the McCurdy reference as was proposed by the Examiner in the Office Action. As discussed above, the McCurdy reference requires that the first and second transparent coatings, which are deposited on an iridescence-suppressing interlayer, are chosen such that the difference in the refractive indices of the coatings in the near infrared region are greater than the difference of the refractive indices of the coatings in the visible region, in order to provide an architectural glazing

which rejects solar energy in the near infrared region while permitting the transmittance of a high degree of visible light. Essentially, this reference requires the combination of an undoped layer, followed by a doped layer, followed by an additional undoped layer.

While, as discussed above, it is believed that the Terneu reference is not citable against the present invention as proposed, it is respectfully submitted that even if this patent was citable as a reference against the present application, it could not be combined with McCurdy reference without destroying the functionality of the McCurdy reference. There are at least two reasons for the impossibility of this combination. First, the Terneu reference discloses the first layer comprising tin and antimony deposited on the substrate. The fluorine doped tin oxide layer is deposited on this layer. This is distinctly in contrast to the McCurdy reference which requires an undoped layer followed by a doped layer. One skilled in the art would understand the tin/antimony layer of Terneu to be a doped layer, and would not anticipate using it in place of the undoped layer required by McCurdy. Thus this required layer of Terneu is in contrast to the requirements of the McCurdy reference, and would destroy the function of the McCurdy reference if combined therewith.

Additionally, the refractive indices of $\text{SnO}_2\text{:F}$ and $\text{SnO}_2\text{:Sb}$ are very similar in both the visible and in the near infrared regions. In practice, the McCurdy reference requires two coatings that act as one layer in the visible spectrum and act as different layers in the near infrared spectrum. As seen on the accompanying chart, that is not the case for a fluorine doped tin oxide layer and an antimony doped tin oxide layer. These layers behave very similarly in both the visible spectrum and in the near infrared spectrum. Thus, once again, the purpose of the

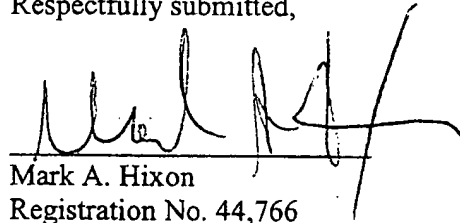
McCurdy invention would be destroyed by combining it with the teachings of Terneu. On the basis of the above, it is again respectfully submitted that it is improper to combine the McCurdy and Terneu references. It is therefore believed that the present rejection should be reconsidered and withdrawn.

Independent claims 22 and 26 provide a similar analysis to that of claim 1. Each of these claims define a coating stack similar to that of claim one, and have the same art applied against them as was applied against claim one. For the reasons stated above, is respectfully submitted that the combination of these references is improper and thus that claims 22 and 26 are also allowable over the applied prior art.

The dependent claims 2-21, 23-25, and 27-28, are believed to be allowable based, at least, upon their dependence on allowable base claims as discussed above.

In view of the above remarks, a favorable reconsideration of the present application and the passing of this application to issue with all claims allowed are courteously solicited. If the Examiner wishes to modify any of the language of the claims in an effort to move the application towards allowance, a telephone call to the undersigned would be greatly appreciated.

Respectfully submitted,



Mark A. Hixon
Registration No. 44,766

ATTORNEYS
Marshall & Melhorn, LLC
Four SeaGate - 8th Floor
Toledo, Ohio 43604
(419) 249-7114

1-14455



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/625,921	07/26/2000	David A. Strickler	1-14455	8181

1678 7590 04/05/2002

MARSHALL & MELHORN
FOUR SEAGATE, EIGHT FLOOR
TOLEDO, OH 43604

EXAMINER

DICUS, TAMRA

ART UNIT

PAPER NUMBER

1775

DATE MAILED: 04/05/2002

3

Please find below and/or attached an Office communication concerning this application or proceeding.

DOCKETED

PR 09 2002

BY hm FILE TO 045

Office Action Summary

Application No.

09/625,921

Examiner

Tamra L. Dicus

Applicant(s)

STRICKLER ET AL.

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,780,149 to McCurdy et al. in view of USPN 6,231,971 to Terneu et al.

Regarding claim 1, McCurdy teaches a coated glass article comprising a glass substrate of 3 mm thickness, and at least a first and second coating, one of which is a coating of antimony doped tin oxide wherein the glass article exhibits a selectivity of 10 or greater (see claim 6 and col. 5 and 7). McCurdy is silent to the second coating being fluorine doped tin oxide deposited on and adhering to the coating of antimony doped tin oxide. Terneu discovered that the inclusion of a fluorine doped tin oxide layer on an antimony doped tin oxide layer provided a low solar factor (solar energy) and emissivity. Therefore, it would be obvious to one having ordinary skill in the art to replace the second layer with a fluorine doped tin oxide in order to have lower solar factors and emissivity.

3. Regarding claims 2-7, McCurdy teaches the thickness of the first and second layers is dependent upon the desired solar performance of the stack (layered coatings) (col. 6, lines 57+). Terneu teaches the thickness of each coating ranges from 100 to 500 nm (1000 to 5000 Angstroms) (refer to col. 5-6, especially col. 5, line 33). Therefore, it would be obvious to a

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skilled artisan to modify the glass article of McCurdy with the teachings of Terneu to provide thicknesses within the claimed ranges to effect the solar performance.

4. Regarding claims 8 and 9, McCurdy further teaches a coated glass article exhibiting an emittance of less than 0.2 (see col. 7, lines 51+).
5. Regarding claim 10, McCurdy teaches a glass substrate is a clear float glass ribbon (Col. 11, lines 18+ and claim 5).
6. Regarding claim 11, McCurdy teaches an article exhibiting a neutral color having the values in the CIELAB system as claimed (see col. 7, lines 7+). Additionally, McCurdy teaches color being defined by the composition of the coated glass article and thickness of the coats (col. 6, line 64+), and specifically teaches a neutral color.
7. Terneu teaches a tin/antimony molar ratio of 0.05 –0.5 (col. 6, lines 5+) meeting the limitations of claim 12.
8. McCurdy at col. 7, lines 12+ teaches a glass article exhibiting a visible light transmittance (Illuminant C) of at least 60% and a total solar energy transmittance of less than 50% meeting the limitations of claims 13 and 14.
9. Regarding claims 15 & 16, McCurdy teaches an insulating glass unit for architectural glazings (col. 7, lines 24+) or window units (col. 1, lines 23+) having a U value (heat transfer coefficient) less than 0.4 (especially, col. 7, line 54+).
10. Regarding claims 17 and 18, McCurdy discussed above, further includes an iridescence-suppressing interlayer between the glass substrate and the antimony doped tin oxide layer. According to McCurdy this interlayer suppresses the observance of off angle colors and single, multiple, or gradient layer coatings are suitable (col. 2, lines 45+, especially lines 65+) and

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exhibits the required Illuminant C and solar energy transmittance exhibiting a neutral color having the values in the CIELAB system as claimed (see col. 7, lines 3+). McCurdy teaches color being defined by the composition of the coated glass article and thickness of the coats (col. 6, line 64+), and specifically teaches exhibiting a neutral color.

11. McCurdy further discloses the iridescence-suppressing interlayer comprising a layer of undoped tin oxide, and a layer of silica (see col. 9, lines 29+, patented claims 6, 10, and 14, col. 11 and 12), where each interlayer has a thickness selected such that the interlayer forms a combined total optical thickness of about $1/6^{\text{th}}$ to about $1/12^{\text{th}}$ of a 500 nm wavelength (col. 2, lines 66+, especially col. 4, lines 47+) addressing the instant claims 19 and 20. McCurdy also discloses the tin oxide deposited on and adheres to a glass substrate and a layer of silica is deposited and adhered to the tin oxide (see claims 6, 10, and 14, col. 8, lines 1+, and col. 9, lines 25+).

12. Regarding claim 21, in several examples, McCurdy discloses how the thickness of the tin oxide and silica layers are between 150 and 350 angstroms (col. 8, lines 1+ and col. 9, lines 29+).

No patentable distinction is seen between the coated glass article of the combined references and that of the present claims.

13. Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,780,149 to McCurdy et al. in view of USPN 6,231,971 to Terneu et al.

Regarding claim 22, McCurdy teaches an insulating glass unit comprising a first and second glass substrate, a multilayer coating stack of at least a first and second coating, one of which is a coating of antimony doped tin oxide wherein the glass article exhibits a selectivity of

10 or greater (satisfying 13 or more) on a clear glass substrate of 3 mm thickness (see claims 6 and 22, col. 7, lines 24+, col. 9, and col. 10). McCurdy teaches the thickness of the first and second layers is dependent upon the desired solar performance of the stack (layered coatings) (col. 6, lines 57+). McCurdy is silent to the second coating being fluorine doped tin oxide of the claimed thickness deposited on and adhering to the coating of antimony doped tin oxide. Terneu discovered that the inclusion of a fluorine doped tin oxide layer on an antimony doped tin oxide layer provided a low solar factor (solar energy) and emissivity. Therefore, it would be obvious to one having ordinary skill in the art to replace the second layer with a fluorine doped tin oxide in order to have lower solar factors and emissivity. Terneu teaches the thickness of each coating ranges from 100 to 500 nm (1000 to 5000 Angstroms) (refer to col. 5-6, especially col. 5, line 33). It would be obvious also to a skilled artisan to modify the glass article of McCurdy with the teachings of Terneu to provide thicknesses within the claimed ranges to effect the solar performance.

14. Regarding claim 23, McCurdy teaches an insulating glass unit for architectural glazings (col. 7, lines 24+) or window units (col. 1, lines 23+) having a U value (heat transfer coefficient) less than 0.4 (especially, col. 7, line 54+).

15. An insulating glass unit using a thickness of multilayered coatings and two glass panes are taught by McCurdy and Terneu and would exhibit the properties as claimed in 24 and 25.

16. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,780,149 to McCurdy et al. in view of USPN 6,231,971 to Terneu et al.

Regarding claim 26, McCurdy teaches a coated glass article comprising a glass substrate of 3 mm thickness, and at least a first and second coating, one of which is a coating of antimony

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doped tin oxide wherein the glass article exhibits a selectivity of 10 or greater (satisfying 13 or more) (see claim 6 and col. 5 and 7). McCurdy teaches the thickness of the first and second layers is dependent upon the desired solar performance of the stack (layered coatings) (col. 6, lines 57+). McCurdy is silent to the second coating being fluorine doped tin oxide of the claimed thickness deposited on and adhering to the coating of antimony doped tin oxide. Terneu discovered that the inclusion of a fluorine doped tin oxide layer on an antimony doped tin oxide layer provided a low solar factor (solar energy) and emissivity. Therefore, it would be obvious to one having ordinary skill in the art to replace the second layer with a fluorine doped tin oxide in order to have lower solar factors and emissivity. Terneu teaches the thickness of each coating ranges from 100 to 500 nm (1000 to 5000 Angstroms) (refer to col. 5-6, especially col. 5, line 33). It would be obvious also to a skilled artisan to modify the glass article of McCurdy with the teachings of Terneu to provide thicknesses within the claimed ranges to effect the solar performance.

17. McCurdy further teaches a coated glass article exhibiting an emittance of less than 0.2 (see col. 7, lines 51+) meeting the limitations of claim 27.

18. Regarding claim 28, McCurdy teaches an article exhibiting a neutral color having the values in the CIELAB system as claimed (see col. 7, lines 7+). McCurdy teaches color being defined by the composition of the coated glass article and thickness of the coats (col. 6, line 64+), and specifically teaches a neutral color.

No patentable distinction is seen between the insulated glass unit of the combined references and that of the present claims.

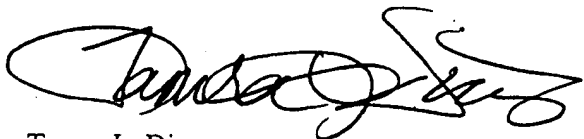
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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is (703) 305-3809. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8329 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Tamra L. Dicus
Examiner
Art Unit 1775


DEBORAH JONES

SUPERVISOR

April 3, 2002

Notice of References Cited	Application/Control No. 09/625,921	Applicant(s)/Patent Under Reexamination STRICKLER ET AL.	
	Examiner Tamra L. Dicus	Art Unit 1775	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-US-5780149	07-1998	McCurdy et al.	
	B	US-US-6,231,971	05-2001	Terneu et al.	
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.